

1. Which of the following deletes all tuples in the instructor relation for those instructors associated with a department located in the Watson building which is in department relation.

A) DELETE FROM instructor WHERE dept_name IN 'Watson';

B) None of the mentioned

C) DELETE FROM department WHERE building = 'Watson';

D) DELETE FROM instructor WHERE dept_name IN (SELECT dept_name FROM department WHERE building = 'Watson');

2. CREATE TABLE Manager (ID NUMERIC, Name VARCHAR (20), budget NUMERIC, Details VARCHAR (30));

In order to ensure that the value of budget is non-negative which of the following should be used?

A) Alter(budget<0)

B) Check(budget>0)

C) Alter (budget>0)

D) Check(budget<0)

3. A _____ indicates an absent value that may exist but be unknown or that may not exist at all.

A) New value

B) Null value

C) Empty tuple

D) Old value

4. We can test for the nonexistence of tuples in a subquery by using the _____ construct.

A) Not exist

B) Not exists

C) Exists

D) Exist

5. SELECT emp_name

FROM department

WHERE dept_name LIKE 'Computer Science';

Which one of the following has to be added into the blank to select the dept_name which has Computer Science as its ending string?

A) S

B) %

C) ||

D) _

6. What will be the result of the query? **what query ?**

- A) Error in insert into Employee values (1008, Ross, Sales, 20000);
- B) All statements executed
- C) Error in insert into Employee values (1006, Ted, Finance,);
- D) Error in create statement

7. Drop Table cannot be used to drop a table referenced by a _____ constraint.

- A) Local Key
- B) Primary Key
- C) Composite Key
- D) Foreign Key**

8. Database _____ which is the logical design of the database, and the database _____ which is a snapshot of the data in the database at a given instant in time.

- A) Relation, Schema
- B) Instance, Schema
- C) Schema, Instance**
- D) Relation, Domain

9. Which of the following creates a virtual relation for storing the query?

- A) Procedure
- B) Function
- C) View**
- D) None of the mentioned

10. Given the basic ER and relational models, which of the following is INCORRECT?

- A) In a row of a relational table, an attribute can have more than one value**
- B) An attribute of an entity can have more than one value
- C) An attribute of an entity can be composite
- D) In a row of a relational table, an attribute can have exactly one value or a NULL value

11. The term _____ is used to refer to a row.

- a. field
- b. attributes
- c. tuple**
- d. instance

12. The EXISTS keyword will be true if:

- a. Neither of these two conditions is met
- b. All rows in the subquery fail the condition only
- c. Any row in the subquery meets the condition only**
- d. Both of these two conditions are met

13. Fifth Normal form is concerned with

- a. Functional dependency b. Multivalued dependency **c. Join dependency** d. Domain-key

14. Which of the following gives a logical structure of the database graphically?

- a. Database diagram b. Entity diagram c. Architectural representation **d. Entity-relationship diagram**

15. Which one of the following is used to define the structure of the relation, deleting relations and relating schemas?

- a. Query b. Relational Schema
c. DML(Data Manipulation Language) **d. DDL(Data Definition Language)**

16. The result which operation contains all pairs of tuples from the two relations, regardless of whether their attribute values match.

- a. Intersection b. Join **c. Cartesian product** d. Set difference

17. What is a relationship called when it is maintained between two entities?

- a. Quaternary **b. Binary** c. Unary d. Ternary

18. Not applicable condition can be represented in relation entry as

- a. 0 b. Blank Space **c. NULL** d.NA

19. If a relation is in BCNF, then it is also in

- a. 2 NF b. 1 NF **c. All of the mentioned** d. 3 NF

20. A _____ integrity constraint requires that the values appearing in specified attributes of any tuple in the referencing relation also appear in specified attributes of at least one tuple in the referenced relation.

- a. Referential** b. Primary c. Referencing d. Specific

21. Which one is based on multi-valued dependency:

- a. Fourth b. First c. Third d. Second

22. Which of the following indicates the maximum number of entities that can be involved in a relationship?

- a. Greater Entity Count
- b. Maximum cardinality
- c. Minimum cardinality
- d. ERD

23. If every non-key attribute is functionally dependent primary key, then the relation will be in

- a. First normal form b. Second normal form
- c. Third form d. Fourth normal form

24. Which of the following is the syntax for views where v is view name?

- A) Create view v as "query expression";
- B) Create "query expression" as view;
- C) Create view "query expression";
- D) Create view v as "query name";

25. In the given query which of the keyword has to be inserted?

```
INSERT INTO employee (1002, Joey, 2000);
```

- A) Field B) Table C) Relation **D) Values**

26. An attribute in a relation is a foreign key if the..... key from one relation is used as an attribute in that relation.

- A) Super B) Sub C) Candidate D) Primary

27. The user defined data type can be created using

- A) Create defintetype B) Create datatype C) Create data D) Create type

28. The.....operation allows the combining of two relations by merging pairs of tuples, one from each relation, into a single tuple.

- A) Select B) Intersection C) Join D) Union

29. The primary key must be

- A) Not null
- B) Either Unique or Not null
- C) Both Unique and Not null
- D) Unique

30. SELECT * FROM employee WHERE dept_name= "Comp Sci";

In the SQL given above there is an error. Identify the error.

- A) "Comp Sci" Single quote
- B) From
- C) Dept_name
- D) Employee

31. Which of the following should be used to find all the courses taught in the Fall 2009 semester but not in the Spring 2010 semester.

A) (SELECT course id

FROM SECTION

WHERE semester = 'Spring' AND YEAR=2010)

B) SELECT COUNT (DISTINCT ID)

FROM takes

WHERE (course id, sec id, semester, YEAR) IN (SELECT course id, sec id, semester, YEAR

FROM teaches

WHERE teaches.ID=10101);

C) SELECT DISTINCT course id

FROM SECTION WHERE semester = 'Fall' AND YEAR=2009 AND

course id NOT IN (SELECT course id

FROM SECTION WHERE semester = 'Spring' AND YEAR=2010);

D) SELECT DISTINCT course_id

FROM instructor

WHERE name NOT IN ('Fall', 'Spring'); ❀

32. CREATE TABLE SECTION

(Course_id VARCHAR (8),

Sec id VARCHAR (8).

Semester VARCHAR (6).

YEAR NUMERIC (4,0),

Building NUMERIC (15),

PRIMARY KEY (course id, sec id, semester, YEAR),

FOREIGN KEY (course id) REFERENCES course);

Which of the following has an error in the above create table for the relation section

A) Primary key (course id, sec id, semester, year)

B) Foreign key (course id) references course

C) Year numeric (4,0)

D) Building numeric (15)

33. CREATE TABLE employee (id INTEGER,name VARCHAR(20), salary NOT NULL);

INSERT INTO employee VALUES (1005,Rach,0);

INSERT INTO employee VALUES (1007,Ross,);

INSERT INTO employee VALUES (1002, Joey,335);

Some of these insert statements will produce an error. Identify the statement.

A) None of the mentioned

B) Insert into employee values (1002,Joey,335);

C) Insert into employee values (1005,Rach,0);

D) Insert into employee values (1007.Ross,);

null salary

34. (SELECT course id

FROM SECTION

WHERE semester 'Fall' AND YEAR-2009)

EXCEPT

(SELECT course id

FROM SECTION

WHERE semester = 'Spring' AND YEAR- 2010);

This query displays

- A) Tuples from first part which do not have second part
- B) Only tuples from second part
- C) Tuples from both the parts
- D) Only tuples from the first part which has the tuples from second part

35. The total participation by entities is represented in E-R diagram as

- A) Double rectangle
- B) Double line
- C) Circle
- D) Dashed line

36. The union operation automatically unlike the select clause.

- A) Adds common tuples
- B) Adds tuples
- C) Eliminates unique tuples
- D) Eliminates duplicate

47. INSERT INTO instructor VALUES (10211, Smith, Biology", 66001), What type of statement is this?

- A) Query
- B) Relational
- C) DDL
- D) DML

48. To remove a relation from an SQL database, we use the..... command.

- A) Purge
- B) Remove
- C) Delete
- D) Drop table

49. Using theclause retains only one copy of such identical tuples.

- A) Null
- B) Unique
- C) Not null
- D) Distinct

50. If an entity set is a lower-level entity set in more than one ISA relationship, then the entity set has

- A) Multilevel inheritance
- B) Hierarchy
- C) Multiple inheritance
- D) Single inheritance

51. SELECT name

FROM instructor WHERE salary IS NOT NULL

Selects

- A) Tuples with null value
- B) Tuples with no null values
- C) Tuples with any salary
- D) All of the mentioned

52. An attribute A of datatype varchar(20) has the value "Avi". The attribute B of datatype char(20) has value "Reed". Here attribute A hasspaces. and attribute B hasspaces.

- A) 3,20 B) 20, 20 C) 3,4 D) 20,4

53. Consider the employees work-team example and assume that certain employees participate in more than one work team. A given employer may therefore appear in more than one of the team entities sets that are lower level entity sets of employees. Thus, the generalization is

- A) Overlapping B) Uniqueness C) Relational D) Disjointness

54. SELECT COUNT (-----ID)

FROM teaches

WHERE semester ='Spring' AND YEAR = 2010;

if we do want to eliminate duplicates, we use the Keywordin the aggregate expression.

- A) Primary key B) Count C) Distinct D) Avg

55.The term attribute refers to aof a table

- A) Column B) Record C) Key D) Tuple

56. CREATE TABLE course

(...

FOREIGN KEY (dept name) REFERENCES

department

...);

Which of the following is used to delete the entries in the referenced table when the tuple is deleted in course table?

- A) Delete cascade B) Delete C) All of the mentioned D) Set null

57. Updates that violate..... are disallowed.

- A) DDL constraints B) Transaction control C) Integrity constraints D) Authorization

58. Which of the following is used to insert a tuple from another relation?

A) Not possible

B) INSERT INTO instructor

SELECT ID, name, dept name, 18000

FROM student

WHERE dept name = 'Music' AND tot cred > 144;

C) INSERT INTO course (course id, title, dept name,
credits)

VALUES ('CS-437', 'DATABASE Systems', 'Comp. Sci.', 4);

D) INSERT INTO course VALUES ('CS-437', 'DATABASE Systems', 'Comp. Sci.', 4);

59. Which one of the following deletes all the entries but keeps the structure of the relation.

A) Delete from instructor where dept name= 'Finance';

B) Delete from instructor where salary between 13000 and 15000

C) Delete from r where p;

D) Delete from instructor;

60. A _____ constraint requires that an entity belong to no more than one lower-level entity set.

A) Special B) Disjointness C) Uniqueness D) Relational

61. The descriptive property possessed by each entity set is

A) Model B) Attribute C) Entity D) Relation

62. Key to represent relationship between tables is called.....

A) None of the mentioned B) Primary key C) Foreign Key D) Secondary Key

63. The _____ is essentially used to search for patterns in target string.

A) Like Predicate B) Null Predicate C) In Predicate D) Out Predicate

64. The _____ is the one in which the primary key of one relation is used as a normal attribute in another relation.

A) Referenced relation B) Referential relation C) Referencing relation D) Referred relation

65. There are similarities between the instructor entity set and the secretary entity set in the sense that they have several attributes that are conceptually the same across the two entity sets: namely, the identifier, name, and salary attributes. This process is called _____

A) Commonality B) Specialization C) Generalization D) Similarity

66. _____ is preferred method for enforcing data integrity

A) Cursors B) Constraints C) Triggers D) Stored Procedure

67. Which relationship is used to represent a specialization entity?

A) ISA B) ONIS C) WHOIS D) AIS

68. Which join refers to join records from the right table that have no matching key in the left table are include in the result set:

A) Half outer join B) Left outer join C) Full outer join D) Right outer join

69. SELECT*

FROM instructor

ORDER BY salary_____,name_____;

To display the salary from greater to smaller and name in ascending order which of the following options should be used?

A) Descending, Ascending B) Asc, Dese C) Ascending, Descending D) Desc, Asc

70. The refinement from an initial entity set into successive levels of entity subgroupings represents a _____ design process in which distinctions are made explicit.

A) Hierarchy B) Bottom-up C) Top-down D) Radical

71. For the view Create view instructor_info as

SELECT ID, name, building

FROM instructor, department

WHERE instructor.deptname=department.deptname;

If we insert tuple into the view as insert into instructor_info values ('69987', 'White', 'Taylor'); What will be the values of the other attributes in instructor and department relations?

A) Error statement **B) Null** C) 0 D) Default value

72. The phrase "greater than at least one" is represented in SQL by

A) <all **B) >some** C) <some D) > all

73. The attribute AGE is calculated from

DATE OF BIRTH. The attribute AGE is

A) Composite B) Multi valued **C) Derived** D) Single valued

74. Delete from r where P:

The above command

A) Clears all entries from the relation B) All of the mentioned
C) Deletes a particular tuple from the relation D) Deletes the relation

75. Let us consider phone number, which can take single or several values. Treating phone number as an _____ permits instructors to have several phone numbers (including zero) associated with them.

A) Attribute B) Entity C) Value D) Relation

76. For each attribute of a relation, there is a set of permitted values, called the _____ of the attribute

A) Set B) Schema **C) Domain** D) Relation

77. SELECT name

FROM instructor

WHERE dept name = "Physics"

ORDER BY name;

By default, the order by clause lists items in _____ order

- A) Any **B) Ascending** C) Same D) Descending

78. Which of the following is a single valued attribute

- A) SUBJECT_TAKEN B) Reference **C) Register_number** D) Address

79. If you were collecting and storing information about your music collection, an album would be considered a(n) _____

- A) Relation **B) Entity** C) Instance D) Attribute

80. SELECT instructor.*

FROM instructor, teaches

WHERE instructor.ID = teaches.ID;

This query does which of the following operation?

- A) Only the some attributes from instructed and teaches are selected
B) All attributes of instructor are selected on the given condition
C) All attributes of instructor and teaches are selected
D) All attributes of teaches are selected on given condition

81. Which of the following is used to store movie and image files?

- A) Binary **B) Blob** C) Image D) Clob

82. Entity is a

- A) Present working model **B) Thing in real world** C) Object of relation D) Model of relation

83. A primary key is combined with a foreign key creates

A) Parent-Child relation ship between the tables that connect them

B) None of the mentioned

C) Many to many relationship between the tables that connect them

D) Network model between the tables that connect them

84. Course(course_id,sec_id,semester)

Here the course id,sec id and semester are and course is a.....

A) Relations, Attribute

B) Attributes, Relation

C) Tuple, Relation

D) Tuple, Attributes

85. The relation with the attribute which is the primary key is referenced in another relation. The relation which has the attribute as a primary key is called

A) Referential relation

B) Referencing relation

C) Referenced relation

D) Referred relation

86. _____ operator is used for appending two strings.

A) %

B) ||

C) &

D) _

87. DELETE FROM r; //r- relation

This command performs which of the following action?

A) Delete fields

B) Clear relation entries

C) Delete rows

D) Remove relation

88. In SQL the statement select * from R.S is equivalent To

A) Select * from R cross join S

B) Select * from R union join S

C) Select * from R natural join S

D) Select from R inner join S

89. Which of the following can be a multivalued attribute

A) Date_of_birth

B) Phone_number

C) Name

D) All of the mentioned

90. An entity in A is associated with at most one entity in B. An entity in B, however, can be associated with any number (zero or more) of entities in A.

- A) Many-to-one B) One-to-one C) One-to-many D) Many-to-many

91. An entity in A is associated with at most one entity in B, and an entity in B is associated with at most one entity in A. This is called as

- A) One-to-many B) Many-to-one C) One-to-one D) Many-to-many

92. Here which of the following displays the unique values of the column?

SELECT _____ dept_name

FROM instructor;

- A) All B) From C) Distinct D) Name

93. The basic data type char(n) is a _____ length character string and varchar(n) is _____ length character.

- A) Equal, variable B) Variable, equal C) Fixed, variable D) Fixed, equal

94. In 2NF

A) No multivalued dependencies (MVDs) exist

B) No partial MVDs exist

C) No partial FDs exist

D) No functional dependencies (FDs) exist

95. Which of the following statements contains an error?

A) Select * from emp where empid=10003;

B) Select empid from emp where empid 10006;

C) Select empid from emp;

D) Select empid where empid 1009 and lastname- 'GELLER';

96. Which of the following relation updates all instructors with salary over 5100.000 receive a 3 percent raise, whereas all others receive a 5 percent raise.

A) UPDATE instructor

SET salary = salary * 1.05

WHERE salary > (SELECT avg (salary)

FROM instructor);

B) None of the mentioned

C) UPDATE instructor

SET salary = CASE

WHEN salary >= 100000 THEN salary * 1.03

ELSE salary * 1.05

END

D) UPDATE instructor

SET salary = salary * 1.03

WHERE salary > 100000;

UPDATE instructor

SET salary = salary * 1.05

WHERE salary <= 100000;

97. Which one of the following uniquely identifies the elements in the relation?

A) Secondary Key B) Primary key C) Foreign key D) Composite key

98. A table has fields F1, F2, F3, F4, and F5, with the following functional dependencies:

F1 → F3

F2 → F4

(F1, F2) → F5

in terms of normalization, this table is in

A) 2NF B) 3NF C) 1NF D) None of the mentioned

99. SELECT name_____ instructor name, course id
FROM instructor, teaches
WHERE instructor.ID=teaches.ID;

Which keyword must be used here to rename the field name?

- A) Rename B) From C) Join **D) As**

100. The query given below will not give an error.

Which one of the following has to be replaced to get the desired output?

SELECT ID, name, dept name, salary* 1.1

WHERE instructor;

- A) Salary *1.1 **B) Where** C) Instructor D) ID

101. SELECT_____

FROM instructor

WHERE dept name 'Comp. Sci.';

Which of the following should be used to find the mean of the salary?

- A) Sum(salary) **B) Avg(salary)** C) Count(salary) D) Mean(salary)

102. To include integrity constraint in an existing relation use:

- A) Alter table** B) Create table C) Modify table D) Drop table

103. UPDATE instructor

_____ salary = salary * 1.05;

Fill in with correct keyword to update the instructor relation.

- A) Set** B) Select C) In D) Where

104. ' _____ ' matches any string of _____ three characters.' _____ %' matches any string of _____ three characters.

- A) Exactly, At least** B) At least, All C) At least, Exactly D) All, Exactly

105. Which one of the following is a set of one or more attributes taken collectively to uniquely identify a record?

- A) Sub key B) Foreign key C) Super key D) Candidate key

106. The attribute name could be structured as an attribute consisting of first name, middle initial, and last name. This type of attribute is called

- A) Simple attribute B) Multivalued attribute C) Derived attribute D) Composite attribute

107. SELECT dept_name, Dept_id, avg (salary)

FROM instructor

GROUP BY dept_name;

This statement is erroneous because

- A) Avg(salary) should not be selected
B) Dept_id should be used in group by clause
C) Misplaced group by clause
D) Group by clause is not valid in this query

108. Which of the following is another name for a weak entity?

- A) All of the mentioned B) Owner C) Child D) Dominant

109. Weak entity set is represented as

- A) Double diamond B) Double line C) Double rectangle D) Underline

110. A Delete command operates on_____ relation.

- A) Several B) One C) Two D) Null

111. Which of the join operations do not preserve non matched tuples?

- A) Right outer join B) Natural join C) Inner join D) Left outer join

112. An _____ is a set of entities of the same type that share the same properties, or attributes.

- A) Entity model **B) Entity set** C) Relation set D) Attribute set

113. Which of the following is the correct format for case statements.

A) All of the mentioned

B) CASE

WHEN pred1 THEN result1

WHEN pred2 THEN result2

...

WHEN predn THEN resultn

ELSE result0

END

C) CASE

WHEN pred1... result1

WHEN pred2... result2

...

WHEN predn... resultn

ELSE result0

END

D) CASE WHEN pred1 THEN result1

WHEN pred2 THEN result2

...

WHEN predn THEN resultn

ELSE result0

114. The entity relationship set is represented in E-R diagram as

- A) Undivided rectangles B) Double diamonds **C) Diamond** D) Dashed lines

115. A window into a portion of a database is

- A) View B) Query C) Schema D) Data dictionary

116. A ____ is a pictorial depiction of the schema of a database that shows the relations in the database, their attributes, and primary keys and foreign keys.

- A) Schema diagram B) Relational algebra C) Database diagram D) Schema flow

117. The predicate in a where clause can involve Boolean operations such as and. The result of true and unknown is ____ false and unknown is ____ while unknown and unknown is

- A) True, unknown, unknown
B) Unknown, unknown, false
C) True, false, unknown
D) Unknown, false, unknown

118. The entity set person is classified as student and employee. This process is called ____

- A) Generalization B) Specialization C) Inheritance D) Constraint generalization

119. Updating the value of the view

- A) Will not affect the relation from which it is defined
B) Will affect the relation from which it is defined
C) Will not change the view definition
D) Cannot determine

120. The result of _ unknown is unknown.

- A) Or B) And C) Xor D) Not

With My Best Wishes

Dr. Nabil Moustafa

